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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/669,499 | 09/23/2003 | Chris D. Paulse | 016866-006211US | 3983 |
| 20350 | 7590 | 03/02/2005 | EXAMINER | |
| TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834 | | | LAU, TUNG S | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2863 | |

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,499

Applicant(s)

PAULSE ET AL.

Examiner

Tung S. Lau

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2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 39-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 39-45, 48-56 and 59-62 is/are rejected.
- 7) ☒ Claim(s) 46, 47, 57 and 58 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 39-45, 48-56 and 59-62 are rejected under 35 U.S.C. 102(e) as being anticipated by Meng et al. (U.S. Patent 6,289,287).

Regarding claim 39:

Meng discloses a method for analyzing mass spectra the method comprising: (a) detecting signals including signal intensity in a plurality of spectra wherein each spectra in the plurality of comprises data representing signal as a function of time-to-flight, mass-to-charge-ratio, or value derive from time-to-flights or mass-to-charge-ratio (abstract). (b) forming at least one signal cluster by clustering signal with similar time-of-flights, mass-to charge-ratio, or value derived from time-of-flights or mass-to-charge-ratios (Col. 2, Lines 30-59); (c) selecting one or more signal cluster from the plurality of signal clusters if the number of signals in a signal cluster exceeds a predetermined number of signals (Col. 2, Lines 30-

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59); and (d) selecting the time-of-flights, the mass-to-charge-ratio, or the value derived from the time-of-flights, the mass-to-charge-ratio of the selected one or more signal cluster in (c) (Col. 2, Lines 30-59, fig. 11).

Regarding claim 50:

Meng discloses a computer readable medium comprising: (a) code for detecting signals including signal intensities in a plurality of spectra, wherein each spectrum in the plurality of spectra comprises data representing signal strength as a function of time-of-flight, mass-to-charge ratio, or a value derived from time-of-flight or mass-to-charge ratio (abstract); (b) code for forming at least one signal cluster by clustering signals with similar time-of-flights, mass-to-charge ratios, or values derived from time-of-flights or mass-to-charge ratios (Col. 2, Lines 30-59, fig. 1, unit 111); (c) code for selecting one or more signal clusters from the plurality of signal clusters if the number of signals in a signal cluster exceeds a predetermined number of signals (Col. 2, Lines 30-59, fig. 2, unit 203); and (d) code for selecting the time-of-flights, the mass-to-charge ratios, or the values derived from the time-of-flights or the mass-to-charge ratios of the selected one or more signal clusters (Col. 2, Lines 30-59, fig. 2, unit 206).

Regarding claim 60:

Meng discloses a computer readable medium for classifying an unknown sample into a class characterized by a biological status using a digital computer, the computer readable medium comprising: (a) code for entering data from a mass spectrum of the unknown sample into a digital computer (abstract), and (b) code

for processing the mass spectrum data using a classification model to classify an unknown sample in a class characterized by a biological status, wherein the classification model is formed by a process including (i) detecting signals including signal intensities in a plurality of spectra, wherein each spectrum in the plurality of spectra comprises data representing signal strength as a function of time-of-flight, mass-to-charge ratio, or a value derived from time-of-flight or mass-to-charge ratio (Col. 2, Lines 30-59, fig. 1, unit 111), (ii) forming a plurality of signal clusters by clustering signals with similar time-of-flights, mass-to-charge ratios, or values derived from time-of-flights or mass-to-charge ratios (Col. 2, Lines 30-59), (iii) selecting one or more signal clusters from the plurality of signal clusters, if the number of signals in a signal cluster exceeds a predetermined number of signals (Col. 2, Lines 30-59), (iv) selecting the time-of flights, the mass-to-charge ratios, or the values derived from the time-of-flights or the mass-to-charge ratios of the selected one or more signal clusters in (iii) (fig. 10), and (v) forming a second plurality of mass spectra, wherein the second plurality of mass spectra is formed using the time-of-flights, the mass-to-charge ratios, or the values derived from the time-of-flights or the mass-to-charge ratios selected in (iv) (Col. 2, Lines 30-59).

Regarding claim 41, Meng discloses the intensity of the signal (Fig. 10-14);

Regarding claim 42, Meng discloses class of samples to class of biological status (Col. 2, Lines 30-59); Regarding claims 43, 54, Meng discloses a class

discriminating between the class (Col. 2, Lines 30-59); Regarding claims 44, 51, Meng discloses analyzing data from second sample (Col. 2, Lines 30-59); Regarding claims 45, 56, Meng discloses a process is recursive partitioning process (Col. 2, Lines 30-59); Regarding claim 48, Meng discloses entering sample in a digital computer (fig. 1, unit 111), processing unknown sample using classification biological status (Col. 2, Lines 30-59); Regarding claim 52, 55, Meng discloses computer code to run the program (fig. 1, unit 111); Regarding claim 53, Meng discloses using plurality of sample with class set of biological sample (Col. 2, Lines 30-59); Regarding claims 59, 62, Meng discloses a gas phase ion spectrometer (Col. 3, Lines 35-39) and a digital computer (fig. 1, unit 111); Claims 49 and 61 detecting diseases (Col. 1-2, Lines 44-6).

Claim Objections

2. Claims 46, 47, 57, 58 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitation of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: prior art fail to teach the process is a neural network, the second mass spectra by adding estimates for missing signals.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should

preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Response to Arguments

3. Applicant's arguments with respect to claims 39-45, 48-56 and 59-62 have been considered but are moot in view of the new ground(s) of rejection. However, applicant's arguments filed 2/14/2005 have been fully considered but they are not persuasive.
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 571-272-2274. The examiner can normally be reached on M-F 9-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone numbers for the organization where this application or proceeding is assigned is 703-872-9306

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TL



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